

Claims

1. Material feed container for a thick-matter pump (18), having a lower container part (38) and a container top (40) releasably connected with the lower container part (38), having a two-part face wall (22), a rear wall (28), and two two-part side walls (42), in each instance, having a material feed opening (64) that points upward, delimited by a circumferential edge (66, 68), having two feed cylinder openings (24) disposed in the face wall (22), and having a tube switch (34) disposed in the container interior, which can be pivoted alternately in front of the feed cylinder openings (24) on the input side, and opens into a pressure pipe (30) on the output side, **characterized in that** the container top (40) has an upper face wall part (44) as well as upper side wall parts (46) that extend away from the former, with free ends (48), and that the circumferential edge (66, 68) has a first edge part (66) forming an upper edge of the container top (40), and a second edge part (68) following the first edge part (66), on the lower container part (38).

2. Material feed container according to claim 1, **characterized in that** the first edge part (66) aligns with the second edge part (68).
3. Material feed container according to one of claims 1 or 2, **characterized in that** the lower container part (38) has the rear wall (28), a floor (54), a lower face wall part (56), and lower side wall parts (58) that drop towards the lower face wall part (56).
4. Material feed container according to claim 3, **characterized in that** the upper face wall part (44) and the upper side wall parts (46) bear a first flange (50) on their lower edge, which is releasably connected with a complementary second flange (60) on the lower face wall part (56) and the lower side wall parts (58) of the lower container part (38).
5. Material feed container according to claim 4, **characterized in that** a sealing means is disposed between the first flange (50) and the second flange (60).
6. Material feed container according to one of claims 3 to 5, **characterized in that** the lower face wall part (56), the

rear wall (28), the lower side wall parts (58) and/or the floor (54) consist of sheet metal, preferably of steel sheet.

7. Material feed container according to one of claims 3 to 6, **characterized in that** the lower face wall part (56), the rear wall (28), the lower side wall parts (58) and/or the floor (54) consist at least partially of a light construction material.
8. Material feed container according to claim 7, **characterized in that** the light construction material has a carbon-fiber-reinforced plastic and/or a fiberglass-reinforced plastic.
9. Material feed container according to claim 7, **characterized in that** the light construction material is silicon carbide.
10. Material feed container according to claim 7, **characterized in that** the light construction material is a metal foam, preferably with titanium components.
11. Material feed container according to one of claims 7 to 10, **characterized in that** the light construction material

carries a friction-wear-resistant and/or hard coating, particularly from the material group of chrome, silicon carbide, or ceramic.

12. Material feed container according to one of claims 3 to 11, **characterized in that** the feed cylinder openings (24) are disposed in the lower face wall part (56).
13. Material feed container according to one of the preceding claims, **characterized in that** a support device for the tube switch (34) is mounted in the lower container part (38).
14. Material feed container according to one of the preceding claims, **characterized in that** the lower container part (38) has pivot bearings for a stirrer mechanism.
15. Material feed container according to one of the preceding claims, **characterized in that** the upper face wall part (44) and the upper side wall parts (46) consist of sheet metal, preferably of steel sheet.

16. Material feed container according to one of claims 1 to 14, **characterized in that** the upper face wall part (44) and the upper side wall parts (46) consist of plastic.
17. Material feed container according to claim 16, **characterized in that** the container top (40) is produced in one piece, as an injection-molded part.
18. Material feed container according to claim 17, **characterized in that** the container top (40) has a contact bead for a lattice grid, facing the container interior.
19. Material feed container according to claim 17 or 18, **characterized in that** the container top (40) has reinforcement strips (52) on the upper face wall part (44) and/or on the upper side wall parts (46).
20. Material feed container according to one of the preceding claims, **characterized in that** the container top (40), particularly the upper face wall part (44) and/or the upper side wall parts (46), consist at least partially of a light construction material.

21. Material feed container according to claim 20, **characterized in that** the light construction material has a carbon-fiber-reinforced plastic and/or a fiberglass-reinforced plastic.
22. Material feed container according to claim 20, **characterized in that** the light construction material is silicon carbide.
23. Material feed container according to claim 20, **characterized in that** the light construction material is a metal foam, preferably with titanium components.
24. Material feed container according to one of claims 20 to 23, **characterized in that** the light construction material carries a friction-wear-resistant and/or hard coating, particularly from the material group of chrome, silicon carbide, or ceramic.
25. Material feed container according to one of claims 3 to 24, **characterized in that** the lower container part (38) has contact elements (74) for a lattice grid, projecting beyond the lower face wall part (56).

26. Material feed container according to one of the preceding claims, **characterized in that** the lower container part (38) has a rubber apron (70) forming the second edge part (68), which apron follows the rear wall (28) and segments of the side walls (42) that proceed from the rear wall (28).
27. Material feed container according to one of the preceding claims, **characterized in that** the lower container part (38) and the container top (40) are connected with one another by means of screws (62).
28. Material feed container according to one of the preceding claims, **characterized in that** a hinged lid (108, 110) for covering the material feed opening (64) is articulated onto the container top (40), on the upper face wall part (44).
29. Material feed container according to claim 28, **characterized in that** the hinged lid (110) is produced from plastic and/or from a light construction material.
30. Material feed container for a thick-matter pump (18), having a material feed opening (64) that points upward, having two feed cylinder openings (24) disposed in a container face

wall (22), and having a tube switch (34) disposed in the container interior, which can be pivoted alternately in front of the feed cylinder openings (24) on the input side, and opens into a pressure pipe (30) on the output side, **characterized by** a hinged lid (110) made of plastic and/or of a light construction material, for covering the material feed opening (64), articulated onto a container wall, preferably the container face wall (22).

31. Material feed container according to claim 30, **characterized in that** the hinged lid (110) is configured as a hollow plastic body having a first plastic shell (112) that faces the material feed opening (64), and a second plastic shell (114), preferably connected in one piece with the former, forming an upper lid part.
32. Material feed container according to claim 31, **characterized in that** the first plastic shell (112) has a smooth surface that faces the material feed opening (64).
33. Material feed container according to claim 31 or 32, **characterized in that** the second plastic shell (114) has reinforcement beads (116).

34. Material feed container according to one of claims 31 to 33, **characterized in that** the hinged lid (110) is produced in one piece, using a rotation casting method.
35. Material feed container according to claim 29 or 30, **characterized in that** the light construction material has a carbon-fiber-reinforced plastic and/or a fiberglass-reinforced plastic.
36. Material feed container according to claim 29 or 30, **characterized in that** the light construction material is silicon carbide.
37. Material feed container according to claim 29 or 30, **characterized in that** the light construction material is a metal foam, preferably with titanium components.
38. Material feed container according to one of claims 35 to 37, **characterized in that** the light construction material bears a friction-wear-resistant and/or hard coating, particularly from the material group of chrome, silicon carbide, or ceramic.

39. Material feed container according to one of claims 28 to 38, **characterized in that** the hinged lid (110) has handles (120) that are molded on, preferably in one piece.
40. Material feed container according to one of claims 28 to 39, **characterized in that** the hinged lid (110) has hooks (118), preferably molded on in one piece, for hooking in closure elements attached on a container wall.
41. Material feed container according to one of claims 28 to 40, **characterized in that** the hinged lid (108, 110) is connected with the container face wall (22) by means of at least one hinge (106) and at least one gas spring.
42. Material feed container according to claim 41, **characterized in that** the hinged lid (108, 110) has attachment means (124) for a rubber apron close to its side connected with the container face wall (22).
43. Material feed container according to one of the preceding claims, **characterized in that** an intermediate ring (86) is disposed in the feed cylinder openings (24), in each

instance, the inner surface of which delimits a flow-through-channel (88) for the thick matter, and the outer mantle surface (90) of which bears at least one toe (92), whereby the container face wall (22) has at least one partially circumferential inner groove (94) in the feed cylinder opening (24), as well as at least one bayonet opening (95) running from an inner surface facing the container interior to the inner groove (94), for accommodating the toe (92), forming a bayonet closure.

44. Material feed container for a thick-matter pump (18), having a material feed opening (64) that points upward, having two feed cylinder openings (24) that extend through a container face wall (22), and having a tube switch (34) disposed in the container interior, which can be pivoted alternately in front of the feed cylinder openings (24) on the input side, and opens into a pressure pipe (30) on the output side, whereby an intermediate ring (86) is disposed in the feed cylinder openings (24), in each instance, the inner surface of which delimits a flow-through-channel (88) for the thick matter, **characterized in that** the outer mantle surface (90) of the intermediate ring (86) bears at least one toe (92), and that the container face wall (22) has at least one partially circumferential inner groove (94) in every feed

cylinder opening (24), as well as at least one bayonet opening (95) running from an inner surface facing the container interior to the inner groove (94), for accommodating the toe (92), forming a bayonet closure.

45. Material feed container according to one of claims 43 or 44, **characterized in that** a connector plate (80) for connecting feed cylinders (26) is affixed to the container outside on the container face wall (22), and that the feed cylinder openings (24) extend through the connector plate (80).
46. Material feed container according to one of claims 43 to 45, **characterized in that** the intermediate ring (86) has at least two, preferably three toes (92), disposed at an equal angle distance from one another, on its outer mantle surface (90), and that the feed cylinder opening (24) has a number of bayonet openings (95) that corresponds to the number of toes (92), which are also disposed at the same angle distance from one another.
47. Material feed container according to one of claims 43 to 46, **characterized in that** the inner groove (94) in the feed cylinder opening (24) is configured to be circumferential.

48. Material feed container according to one of claims 43 to 47, **characterized in that** a spectacle plate (82) having two spectacle plate openings (84) is releasably attached to the inner surface of the container face wall (22), whereby the spectacle plate openings (84) communicate with the feed cylinder openings (24), and whereby the delimitation surfaces of the spectacle plate openings (84) align with the delimitation surfaces of the flow-through-channels (88).
49. Material feed container according to one of claims 43 to 48, **characterized in that** the intermediate ring (86) and/or the spectacle plate (82) consist at least partially of a friction-wear-resistant light construction material.
50. Material feed container according to claim 49, **characterized in that** the light construction material of the intermediate ring (86) and/or the spectacle plate (82) has a carbon-fiber-reinforced plastic and/or a fiberglass-reinforced plastic.
51. Material feed container according to claim 49, **characterized in that** the light construction material of the intermediate

ring (86) and/or the spectacle plate (82) is silicon carbide.

52. Material feed container according to claim 49, **characterized in that** the light construction material of the intermediate ring (86) and/or the spectacle plate (82) is a metal foam, preferably with titanium components.
53. Material feed container according to one of claims 43 to 52, **characterized in that** the delimitation surfaces of the flow-through-channels (88) and/or the spectacle plate openings (84) are coated with a friction-wear-resistant layer (89), preferably of a hard metal or of a material from the material group of chrome, silicon carbide, or ceramic.
54. Material feed container according to one of claims 43 to 53, **characterized in that** the diameter of the flow-through-channel (88) narrows towards the container interior or towards the feed cylinder (26).
55. Material feed container according to one of claims 43 to 54, **characterized in that** the delimitation surfaces of the flow-

through-channels (88) align with the inner surfaces of the feed cylinders (26).

56. Material feed container according to one of claims 43 to 55, **characterized in that** the intermediate ring (86) has at least one circumferential groove (96), offset axially relative to the toes (92), in its mantle surface (90), with a sealing ring (98) for contact against the container face wall (22) and/or the connector plate (80).
57. Material feed container according to one of claims 43 to 56, **characterized in that** the intermediate ring (86) has a circumferential groove (96) on a face that faces the spectacle plate (82), with a sealing ring (98) that lies against the spectacle plate (82).
58. Material feed container according to one of claims 43 to 57, **characterized in that** the intermediate ring (86) has recesses (100) for the insertion of holder mandrels on a face that faces the spectacle plate (82).
59. Material feed container according to one of claims 43 to 58, **characterized in that** a circumferential cavity (102) is

disposed between the intermediate ring (86) and the container face wall (22), which cavity can be filled with lubricant by way of a feed opening (104), and increases in size when the intermediate ring (86) is pulled out of the feed cylinder opening (24).